



Raychem screened, separable elbow
connection system RSES
400 A for 24 kV and 36 kV

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Features

- The insulation of the connector is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and non-flammability.
- A thin-walled screen is permanently bonded onto the insulation and protects the connection system against accidental contact.
- The screened connector need not be removed for oversheath testing.
- The screened cable connector exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.
- Design fits 400 A bushings (interface "B") as specified by EN 50180 and EN 50181.
- The wide application range covers cable cross-sections from 50 to 300 mm².
- Conductor connection with mechanical lugs, designed to accept aluminium and copper conductors.
- Easily accessible capacitive test point.
- Few accessories required for system test.
- Complete kit including lugs facilitates installation and storage.

Raychem RSES screened, separable elbow connectors are designed to connect single- and three-core polymeric cables to medium-voltage gas-insulated switchgear and other equipment using CENELEC bushings Type "B" specified for 400 A up to 36 kV.

Made of a highly modified silicone rubber and protected by a thin-walled outer conductive screen connected to earth, RSES elbow connectors are equally suited for indoor and outdoor installation. Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross-sections from 50 to 300 mm². The overall and cut-back dimensions are designed to take up minimum space in the terminal box. RSES elbow connectors are equipped with a capacitive test point for determining whether the circuit is energised. This test point is protected by a conductive cap.

After cable preparation and lubrication, the stress control adapter is simply slid into place, followed by the screened connector body. These two components can be installed under virtually any conditions.



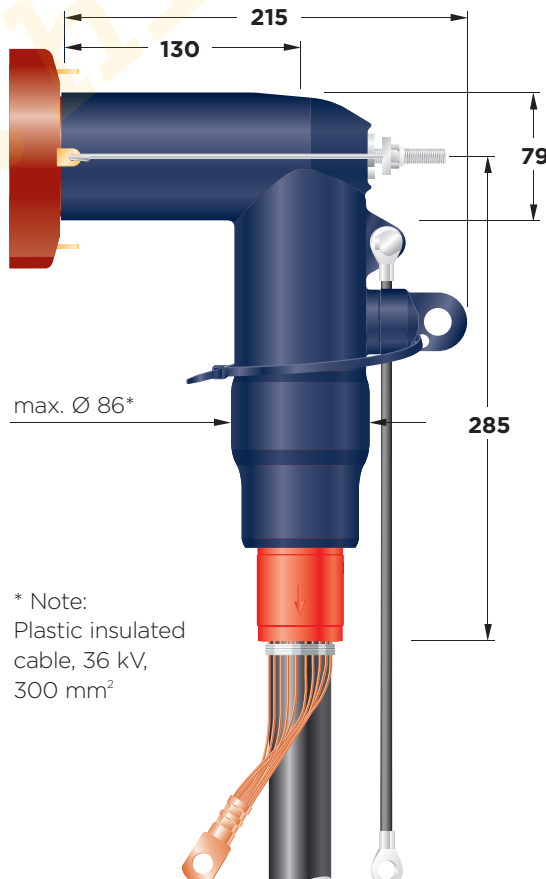
A separable mounting system ensures easy installation of the connector onto the bushing.

All kits include high-performance multi-range mechanical lugs matching the design of the RSES elbow connector.

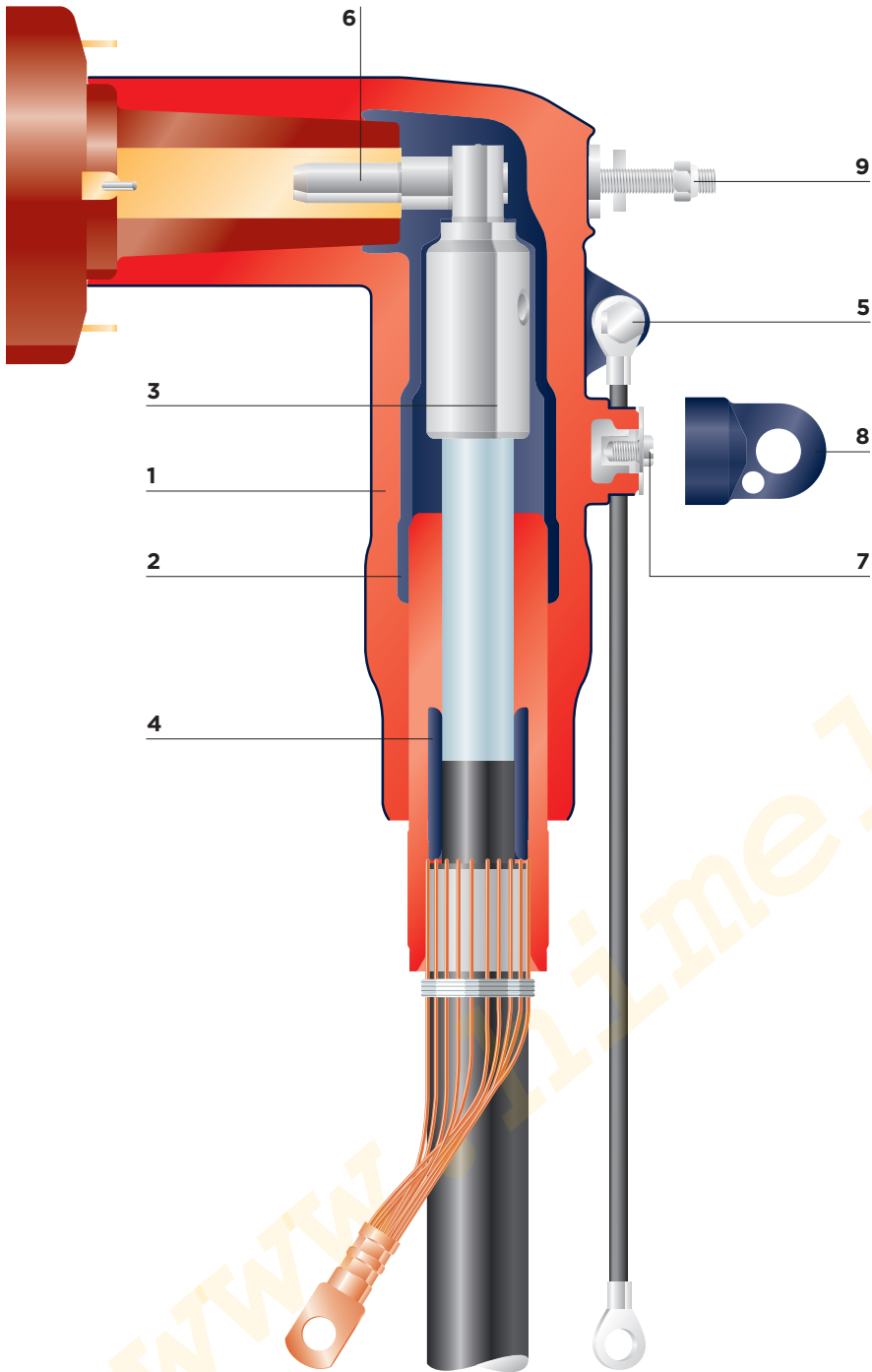
Applications

Single connection

Material requested for 3 phases:
1 x RSES 64xx (kit)



Design and construction



1 Screened body

A thin-walled conductive outer screen is permanently bonded to the silicone rubber insulating material of the body.

2 Inner screen

A conductive inner layer, as a faraday cage around the mechanical lug, prevents corona at rated voltage.

3 Mechanical lugs

Specially designed mechanical lugs with shear bolts for connecting either aluminium or copper conductor cables.

4 Stress cone adapter

Relieves electrical stress at the point where the cable screen is cut. The insulated section, extending beyond the wire shielding, provides a convenient point for oversheath testing.

5 Earthing eye and ground lead

Provides a connection point for earthing the screen.

6 Pin

Silver plated copper electrode, designed and tested to carry 400 A continuous current. The hexagonal wrench (allen key) to fix the pin onto the connector is supplied with each kit.

7 Test point

The test point is used to determine whether the circuit is energised; alternatively it can be used for phasing.

8 Conductive covering cap

Electrical screen and protection of the test point

9 Stainless steel bail

Secures the elbow to its mating bushing

Note:

All applications as shown in the brochure need to have a mechanical support, based on the requirements for dynamic short circuit.

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Technical data

Cable insulation diameter range	22.4 - 42.0 mm
Connector cross-section range	50 - 300 mm ²
Maximum system voltage	36 kV
Continuous current rating	400 A
Basic impulse level	194 kV
Partial discharge at 2 U ₀	< 2 pC
AC voltage withstand, 5 min	85.5 kV
DC voltage withstand, 15 min	114 kV
Thermal short circuit, 1 s	18.1 kA
Dynamic short circuit	48.5 kA

The adapters meet the international CENELEC HD 629.1 S2 specification.

Selection table

Screened separable elbow connection system with mechanical lugs and shear bolts

Cross section mm ²	24 kV		Reference number Al or Cu
	Diameter core insulation min	Conductor material max	
70-95	22.4-	35.5 mm	RSES-6451
95-240	22.4-	35.5 mm	RSES-6452
185-300	22.4-	35.5 mm	RSES-6454

Cross section mm ²	36 kV		Reference number Al or Cu
	Diameter core insulation min	Conductor material max	
50-95	22.4-	35.5 mm	RSES-6451
95-150	22.4-	35.5 mm	RSES-6452
120-240	28.9-	42.0 mm	RSES-6453
185-300	28.9-	42.0 mm	RSES-6455

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